Section 3.4 Monitoring Strategy for TMDLS

Monitoring for TMDLs reflects the state's highest priorities for restoration. Data collection is needed to characterize pollutants identified as a driving factor in impairment under Section 303d of the Clean Water Act. This work reflects the state's TMDL Vision Process in partnership with USEPA.

Table 23: TMDL Monitoring Projects	
Study	**Purpose: Fish and Aquatic Life Use, Recreation, Public Health & Welfare**
TMDL Monitoring	TMDL Monitoring for Model Creation: Wisconsin River, Upper Fox/Wolf, Milwaukee
	TMDL Implementation Monitoring: Rock River, Lower Fox River

Study Descriptions

Total Maximum Daily Load (TMDL) Development [Modeling, Load Allocation]

TMDL development (which varies depending on the size, intensity and fiscal resource availability for a given TMDL) across the state has resulted in an increased level of monitoring to help determine pollutant load reductions necessary to meet water quality criteria. The monitoring associated with each TMDL varies widely and depends on the pollutant(s) of concern, the existing monitoring data, the geographic scale of the TMDL, and other factors. Often DNR leads the monitoring efforts associated with TMDL development but a number of other entities contribute. County Land & Water Conservation Departments, USGS, wastewater treatment facilities, local citizen groups, and others have contributed to DNR or third party TMDL development efforts.

Monitoring Objectives

Each TMDL monitoring project differs depending on the unique resources listed, the area included in the study, the pollutants and impairments for which the water is listed and the sources of contamination. The primary objective of this type of study is to understand the extent of impairment, the specific causes of impairment, relevant pollutant concentrations, loading rates, and assimilative capacity. These data help set limits for point and nonpoint sources of the given pollutant.

Monitoring Design

Each TMDL development monitoring design will be uniquely designed for the needs of the project at hand. In general, data collection to write a TMDL is a time consuming, expensive, collection intensive task, often requiring at least one complete field season of multiple parameters covering the suite of physical, chemical, habitat and biological parameters.

Water Quality Indicators

The water quality indicators selected for a given TMDL study will reflect the end points for which the TMDL is created to restore – macroinvertebrate health, fish community assemblage, total phosphorus ambient concentrations, etc.

Quality Assurance

Sampling Protocols should be clearly documented and quality assurance elements should be incorporated into TMDL study designs.

Data Management

To the maximum extent possible, all entities conducting water or sediment chemistry monitoring or Biomonitoring for acute or chronic toxicity should use the State Laboratory of Hygiene (SLOH) for analytical work. If data collection is conducted by organizations or individuals outside of the DNR, the flow of data back into the SWIMS system should be required whenever possible.